What is claimed is:

1. A substrate with an electrode comprising a substrate and an electrode made of an oxide conductive film disposed on the substrate, wherein the electrode is composed of polycrystal having an average grain size of 25 nm or larger, a crystal being the largest constitutional unit having a boundary identifiable by surface observation.

2. The substrate with an electrode according to claim 1, wherein the average grain size of the crystals is 40 nm or larger.

3. The substrate with an electrode according to claim 1, wherein the average grain size of the crystals is 300 nm or less.

4. The substrate with an electrode according to claim 1, wherein the thickness of the electrode is in the range of 50 nm to 500 nm.

5. The substrate with an electrode according to claim 1, wherein height variation of a surface of the electrode is 20 nm or less.

6. The substrate with an electrode according to claim 1, wherein the oxide conductive film is made of indium oxide doped with tin.

7. The substrate with an electrode according to claim 6, wherein the oxide conductive film has a tin oxide content of less than 5% by weight.

8. The substrate with an electrode according to claim 1, further

comprising an undercoat film between the substrate and the oxide conductive film, the undercoat film being made of an organic material.

9. The substrate with an electrode according to claim 1, wherein the substrate is made of a synthetic resin.

10. The substrate with an electrode according to claim 9, further comprising a transparent coating film on a surface of the electrode, the transparent coating film containing a synthetic resin and having a volume resistance in the range of 10^2 Ω·cm to 10^{12} Ω·cm.

11. The substrate with an electrode according to claim 10, wherein the transparent coating film has a thickness in the range of 0.5 μm to 5 μm.

12. The substrate with an electrode according to claim 10, wherein the thickness of the electrode is 20 nm or less.

13. A method of producing a substrate with an electrode, comprising the steps of:

forming an oxide conductive film consisting of an amorphous material or substantially consisting of an amorphous material on a substrate at a temperature equal to or less than the crystallization temperature of the film; and

crystallizing the oxide conductive film by heating.

14. The method of producing a substrate with an electrode according to claim 13, wherein in the step of forming an oxide conductive film, the oxide

conductive film is heated at a temperature of 150°C or less.

15. The method of producing a substrate with an electrode according to claim 13, wherein in the step of crystallizing the oxide conductive film, the oxide conductive film is heated at a temperature equal to or less than the crystallization temperature.

16. The method of producing a substrate with an electrode according to claim 13, wherein in the step of crystallizing the oxide conductive film, the oxide conductive film is heated at temperature equal to or less than the glass transition temperature of the substrate.

17. The method of producing a substrate with an electrode according to claim 13, wherein the step of crystallizing the oxide conductive film is carried out in an atmosphere free of oxygen.

18. The method of producing a substrate with an electrode according to claim 13, wherein the oxide conductive film is made of indium oxide having a portion substituted by tin.

19. The method of producing a substrate with an electrode according to claim 18, wherein the oxide conductive film has a tin oxide content of less than 5% by weight.

20. The method of producing a substrate with an electrode according to claim 13, wherein, in the oxide conductive film to be formed on the substrate, crystal grains having an average grain size of 200 nm or less are dispersed

in an amorphous matrix.

21. The method of producing a substrate with an electrode according to claim 13, wherein, in the step of crystallizing the oxide conductive film, the oxide conductive film is transformed into an aggregate of randomly-oriented crystals having an average grain size of 20 nm or larger.

22. The method of producing a substrate with an electrode according to claim 21, wherein the average grain size of the crystals is 300 nm or less.

23. The method of producing a substrate with an electrode according to claim 13, wherein the thickness of the oxide conductive film is 500 nm or less.

24. The method of producing a substrate with an electrode according to claim 13, wherein the substrate is made of a synthetic resin.

25. The method of producing a substrate with an electrode according to claim 13, wherein the substrate comprises a undercoat film on a surface where the oxide conductive film is to be formed, the undercoat film being made of an organic material.

26. The method of producing a substrate with an electrode according to claim 13, wherein, in the film completed by crystallization, the average grain size of crystal grains is in the range of 20 nm to 300 nm.

27. The method of producing a substrate with an electrode according to

claim 13, further comprising a step of forming a transparent coating film on a surface of the electrode, the transparent coating film containing a synthetic resin and having a volume resistance in the range of $10^2\ \Omega \cdot cm$ to $10^{12}\ \Omega \cdot cm$.

28. The method of producing a substrate with an electrode according to claim 27, wherein after forming a layer made of a light-curing resin on the completed oxide conductive film and exposing regions of the layer corresponding to an electrode pattern for processing the oxide conductive film to cure and form the transparent coating film, the oxide conductive film is processed into the electrode by etching the oxide conductive film with the cured transparent coating film serving a resist.

29. The method of producing a substrate with an electrode according to claim 27, wherein the thickness of the transparent coating film is in the range of 0.5 μm to 5 μm.

30. The method of producing a substrate with an electrode according to claim 27, wherein the thickness of the electrode is 20 nm or less.